CONTRA COSTA TRANSPORTATION AUTHORITY

California Department of Transportation

SR4 (East) Widening Project
Loveridge Road to Somersville Road

04-CC-04, KP 37.9/41.3 (PM 23.71/26.8)
04275-228501

NON-STORMWATER INFORMATION HANDOUT

May 29, 2009

URS

SR4 (EAST) WIDENING PROJECT
LOVERIDGE ROAD TO SOMERSVILLE ROAD
NON-STORM WATER INFORMATION PACKAGE
SEEPAGE ESTIMATE FOR FOUNDATION EXCAVATIONS

This memorandum summarizes the estimates of ground water flow rate and permeability at the foundation excavations in the above referenced project area. It is our understanding that this information will be used in estimating dewatering quantities for water pollution control. Please note that the quantity of non-construction caused water, such as storm/run-off water or flow from adjacent drainage lines, is not included in this estimation.

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California Department of Transportation
District 4
Water Quality Program
111 Grand Avenue
Oakland, California 94612

ESTIMATED RATE OF SEEPAGE

Typical cross-sections were developed for the geotechnical analyses. Those cross-sections were used for estimating seepage flows in those locations where drilled piers or excavation below the expected water table are expected. Please note that the groundwater level may fluctuate with season and rainfall near the project locations. The approximate coefficient of permeability for different type of soils (Unified Soil Classification) is shown in Attachment 1 based on the FHWA "Highway Drainage Design" manual (Report No. FHWA-TS-80-224).

Retaining Walls

Retaining walls, 1 though 6 will be constructed. The foundations for the retaining walls are mostly spread footings. Portions of the following retaining walls will be constructed on piles:
Retaining Wall No. 3A – Driven piles
Retaining Wall No. 4 – CISS piles: L = 8m, Diam. = 360mm
Sign Posts adjacent to Retaining Walls – CIDH piles: L = 8m; Diam. = 1600mm

Within the area of Retaining Wall No. 4, the deepest boring B-20 reached a depth ~28m below ground surface. In the area of Retaining Wall No. 4, groundwater level was not measured. However, within the project area, the ground water surface was generally encountered at an elevation of +5m. Please note that the groundwater level may fluctuate with season and rainfall near the project locations.

Since the bottom of the leveling pad ranges from the Elevation 14.85m to 19.73m, pile lengths of 8.00m are above the expected water table. Furthermore, below elevation +5m (expected water table elevation), Boring 20 identified materials of low permeability (clays and silts). Flow to the drilled holes is expected to be low.

CIDH Piles for Overhead Sign Structures

This project contains eight regular overhead signs (OHS) and two message signs (CMS). CIDH pile foundations are designed to support all OHS. Both OHS and CMS are to be founded on CIDH pile with a diameter of 1524mm and lengths ranging from 7.0m to 7.6m. Within the project area, the ground water surface was generally encountered at an elevation of +5m. Therefore excavations for the CIDH piles are expected to encounter the water surface only in locations where the base of the foundation is below elevation +12.6m. The foundations for all the OHS and CMS are expected to be above this elevation. Therefore, excavations for the CIDH pile foundations for the OHS are not expected to encounter the water surface. Please note that the groundwater level may fluctuate with season and rainfall near the project locations.

CIDH Piles for Loveridge Road Overcrossing

While the abutments of this bridge are supported by precast/prestressed reinforced concrete piles, the bents of the bridge are supported by CIDH piles.

The seepage flows are calculated for the CIDH piles:
Loveridge Road OC (Replace) – Bent No. 2 – CIDH piles:
L = 22.55m (Pile Tip El=-15.1m); Diam. = 750mm – 24 piles
L = 22.50m (Pile Tip El=-15.4m); Diam. = 750mm – 32 piles

Loveridge Road OC (Replace) – Bent No. 3 – CIDH piles:
L = 22.55m (Pile Tip El=-15.4m); Diam. = 750mm – 26 piles
L = 22.55m (Pile Tip El=-15.4m); Diam. = 750mm – 32 piles

The expected subsurface profile for these locations was evaluated during the foundation design, and is presented in the Loveridge Road Overcrossing Foundation Report. The foundation report shows that clay material is encountered up to elevation -11m. Below this elevation a poorly graded sand (SP) layer is expected.

The seepage rate for each CIDH pile excavation is determined from the total volume of water filling the excavation up to the presumed groundwater level in one day. The volume of water filling the hole up to the estimated water table is 2,050 gall/day per CIDH pile. Please note that the groundwater level may fluctuate with season and rainfall near the project locations. Attachment 2 shows the location, dimensions, groundwater information and calculated seepage rate for each pile excavation.

CIDH Piles for Sound Walls

This project contains a sound wall. CIDH pile foundations are designed to support portions of the sound wall

Two different diameter CIDH piles will be used:
Sound Wall No. 1-CIDH piles: L = 9m; Diam. = 760mm – Sta. 15+82 to 15+92; 15+95 to 16+04 (top of pile elevation ~ 18m)
Sound Wall No. 1-CIDH piles: L = 4.9m; Diam. = 400mm-Sta. 10+00 to 15+82; 16+04 to 16+50 (top of pile elevation >18m)

Within the project area, the ground water surface was generally encountered at an elevation of +5m. Therefore, foundations for the CIDH piles for Sound Walls are expected to be above the water surface elevation. Excavations for the CIDH pile foundations for the CIDH piles for Sound Walls are not expected to encounter the water surface, and no dewatering from ground water conditions is expected. Please note that the groundwater level may fluctuate with season and rainfall near the project locations.

Pile Century Boulevard Undercrossing

All piles for the undercrossing structure foundations are made of precast/prestressed reinforced concrete. Therefore, no excavations will be performed for the installation of these piles. Thus, no significant foundation seepage is expected at this location.

CIDH Piles for Utilities Undercrossing

The foundations for the Utilities undercrossing are CIDH piles:
Utilities Undercrossing – CIDH piles: L = 8.8m; Diam. = 460mm – pile tip elevation = +8.8m

Within the project area, the ground water surface was generally encountered at an elevation of +5m. Therefore, foundations for the CIDH piles for the Utilities Undercrossing are expected to be above the water surface elevation (pile tip elevation +8.8m). Excavations for the CIDH pile foundations for the Utilities Undercrossing are not expected to encounter the water surface, and no dewatering from ground water conditions is expected. Please note that the groundwater level may fluctuate with season and rainfall near the project locations.

CIDH Piles for eBART Utility Corridor

The foundations for the eBART Utility Corridor are based on CIDH piles:
eBART Utility Corridor – CIDH piles: Pile Tip El=-4.7m; Diam. = 914mm

Subsurface profile developed for the Century undercrossing was used in this location. In addition, boring log 21, drilled in the vicinity of this area, was used. The expected subsurface profile for these locations was evaluated during the foundation design, and is presented in the Century Boulevard Undercrossing Foundation Report. The profile indicates low permeability clayey materials, with small sandy layers (as observed in boring 21).

The seepage rate for each excavation of CIDH pile is determined from the total volume of water filling the excavation up to the presumed groundwater level in one day.

For the piles in the eBART corridor, the total volume of water filling the excavation up to the presumed groundwater level in one day is 1,560 gall/day per CIDH pile. Please note that the groundwater level may fluctuate with season and rainfall near the project locations. Attachment 3 shows the location, dimensions, groundwater information and calculated seepage rate for each pile excavation.

Other Considerations

The contractor can use the coefficients of permeability provided by the aforementioned FHWA manual to compute his own flow rate. It is up to the contractor to determine the method of dewatering. Also, the contractor will be responsible for the design of the shoring and dewatering of the site.

References

FHWA, "Highway Subsurface Drainage," FHWA Report No. FHWA-TS-80-224, 1980.

Attachment 1

Coefficients of Permeability for Soils*

Unified Soil Classification	Relative Permeability	Coefficient of Permeability k (ft/day)
GW	Pervious	2.7 to 274
GP	Pervious to Very Pervious	13.7 to 27,400
GM	Semipervious	$2.7x10^{-4}$ to 27
GC	Impervious	$2.7x10^{-5}$ to $2.7x10^{-2}$
SW	Pervious	1.4 to 137
SP	Semipervious to Pervious	0.14 to 1.4
SM	Impervious to Semipervious	$2.7x10^{-4}$ to 1.4
SC	Impervious	$2.7x10^{-5}$ to 0.14
ML	Impervious	$2.7x10^{-5}$ to 0.14
CL	Impervious	$2.7x10^{-5}$ to $2.7x10^{-3}$
OL	Impervious	$2.7x10^{-5}$ to $2.7x10^{-2}$
MH	Very Impervious	$2.7x10^{-6}$ to $2.7x10^{-4}$
CH	Very Impervious	$2.7x10^{-7}$ to $2.7x10^{-5}$

* From FHWA-TS-80-224, Table 2, page 48.

Attachment 2

Location: Loveridge Road OC (Replace)	Number of Piles	CIDH Pile Diam. (mm)	CIDH Pile Length (m)	Approx. GWT Bgs[1] (m)	Seepage Rate – Volume (gall/day)
Bent 2	24	750	22.55	5	2,050
Bent 2	32	750	22.50	5	2,050
Bent 3	26	750	22.55	5	2,050
Bent 3	32	750	22.55	5	2,050

Attachment 3

Location: eBART Utility Corridor	Number of Piles	CIDH Pile Diam. (mm)	CIDH Pile Length (m)	Approx. GWT Bgs[1] (m)	Seepage Rate – Volume (gall/day)
Abut. 1	4	914	26.4	17	1,560
Abut. 2	4	914	26.5	17	1,560

SITE PLAN

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4	37.9/41.3		

INDEX OF SHEETS

SHEET No.

TITLE
TYPICAL CROSS SECTIONS
KEY MAP AND LINE INDEX
LAYOUT
PROFILE
CONSTRUCTION DETAILS
TEMPORARY WATER POLLUTION CONTROL DETAILS
EROSION CONTROL PLAN
CONTOUR GRADING AND PAVMENT ELEVATION
DRAINAGE PLAN, PROFILES, DETAILS, AND QUANTITIES
SANITARY SEWER PLAN
UTILITY PLAN AND DETAILS
WATER LINE PLANS
CORROSION PROTECTION DETAILS
STAGE CONSTRUCTION
TRAFFIC HANDLING PLAN
DETOUR
CONSTRUCTION AREA SIGNS
PAVEMENT DELINEATION PLAN
SUMMARY OF QUANTITIES
SIGN PLAN
RETAINING WALL PLAN
SOUND WALL PLAN
PLANT REMOVAL PLAN
IRRIGATION REMOVAL PLAN
PLANTING AND IRRIGATION PLAN
ELECTRICAL PLAN

STATE OF CALIFORNIA

DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON

STATE HIGHWAY

IN CONTRA COSTA COUNTY
IN PITTSBURG AND ANTIOCH
FROM 0.9 KM WEST OF LOVERIDGE ROAD OVERCROSSING
TO 0.3 KM WEST OF SOMERSVILLE ROAD UNDERCROSSING

To be supplemented by Standard Plans dated July, 2004

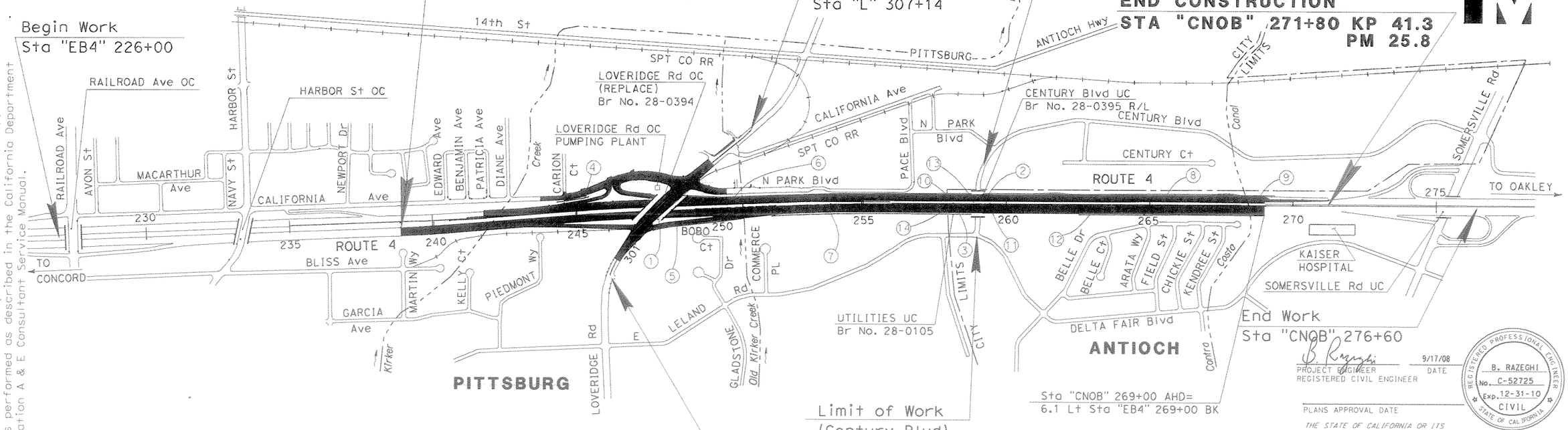
LOCATION MAP

BEGIN CONSTRUCTION
STA "EB4" 238+83 KP 37.9
PM 23.7

Limit of Work
(Loveridge Rd)
Sta "L" 307+14

Limit of Work
(Century Blvd)
Sta "LCNT" 11+82

END CONSTRUCTION
STA "CNOB" 271+80 KP 41.3
PM 25.8



NO SCALE

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO CONTRACTORS."

Approved as to impact on State facilities and conformance with applicable State standards and practices and that technical oversight was performed as described in the California Department of Transportation A & E Consultant Service Manual.

APPROVED AS TO IMPACT ON STATE FACILITIES AND CONFORMANCE WITH APPLICABLE STATE STANDARDS AND PRACTICES AND THAT TECHNICAL OVERSIGHT WAS PERFORMED.

CONSULTANT DESIGN ENGINEER	REGISTRATION No.	LICENSE Exp. DATE	DATE SIGNED
BEN RAZEGHI	C-53896	12-31-09	9-17-08

CALTRANS DESIGN OVERSIGHT APPROVAL
SOTERO ANGELES

Approve as to features affecting City of Antioch

Approve as to features affecting City of Pittsburg

B. Razeghi 9/17/08
PROJECT ENGINEER DATE
REGISTERED CIVIL ENGINEER

REGISTERED PROFESSIONAL ENGINEER
B. RAZEGHI
No. C-52725
Exp. 12-31-10
CIVIL
STATE OF CALIFORNIA

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

Contra Costa Transportation Authority
3478 Buskirk Avenue, Suite 100
Pleasant Hill, CA 94523

URS
3440 Vincent Road
Pleasant Hill, CA 94523

CONTRACT No. **04-228594**

Caltrans Metric

LAST REVISION — PLOT DATE — USERNAME

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5	RETAINING WALL No. 3A	- PILE LAYOUT
6	RETAINING WALL No. 3A	- MISCELLANEOUS DETAILS
7 - 14	RETAINING WALL No. 3B	- STRUCTURE PLAN No. 1 to 8
15	RETAINING WALL No. 3A AND 3B	- BARRIER TRANSITION
16 - 23	RETAINING WALL No. 4	- STRUCTURE PLAN No. 1 to 8
24	RETAINING WALL No. 4	- PILE DETAILS
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STANDARD PLANS DATED JULY 2004

A10A	ACRONYMS AND ABBREVIATIONS (A-L)
A10B	ACRONYMS AND ABBREVIATIONS (M-Z)
A10C	SYMBOLS (SHEET 1 OF 2)
A62B	LIMIT OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE SURCHARGE AND WALL
A76A	CONCRETE BARRIER TYPE 60
A85	CHAIN LINK FENCE
B0-3	BRIDGE DETAILS
B2-5	PILE DETAILS - CLASS 400 AND CLASS 625
B3-1	RETAINING WALL TYPE 1 - H=1200 THROUGH 9100 MM
B3-8	RETAINING WALL DETAILS No. 1
B11-52	CHAIN LINK RAILING TYPE 7
B11-55	CONCRETE BARRIER TYPE 732
D73	DRAINAGE INLETS
D74A	DRAINAGE INLETS
D74C	DRAINAGE INLET DETAILS
S-3	OVERHEAD SIGNS - TRUSS, SINGLE POST TYPE - BASE PLATE AND ANCHORAGE DETAILS
ES-6B	ELECTRICAL SYSTEMS (LIGHTING STANDARDS TYPES 15 AND 21, BARRIER RAIL MOUNTED DETAILS)

(4/1) — Standard Plan Sheet No. / Detail No.

(A) - Section Identification

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	CC	4	37.9/41.3		

REGISTERED CIVIL ENGINEER — 02/08/08 DATE

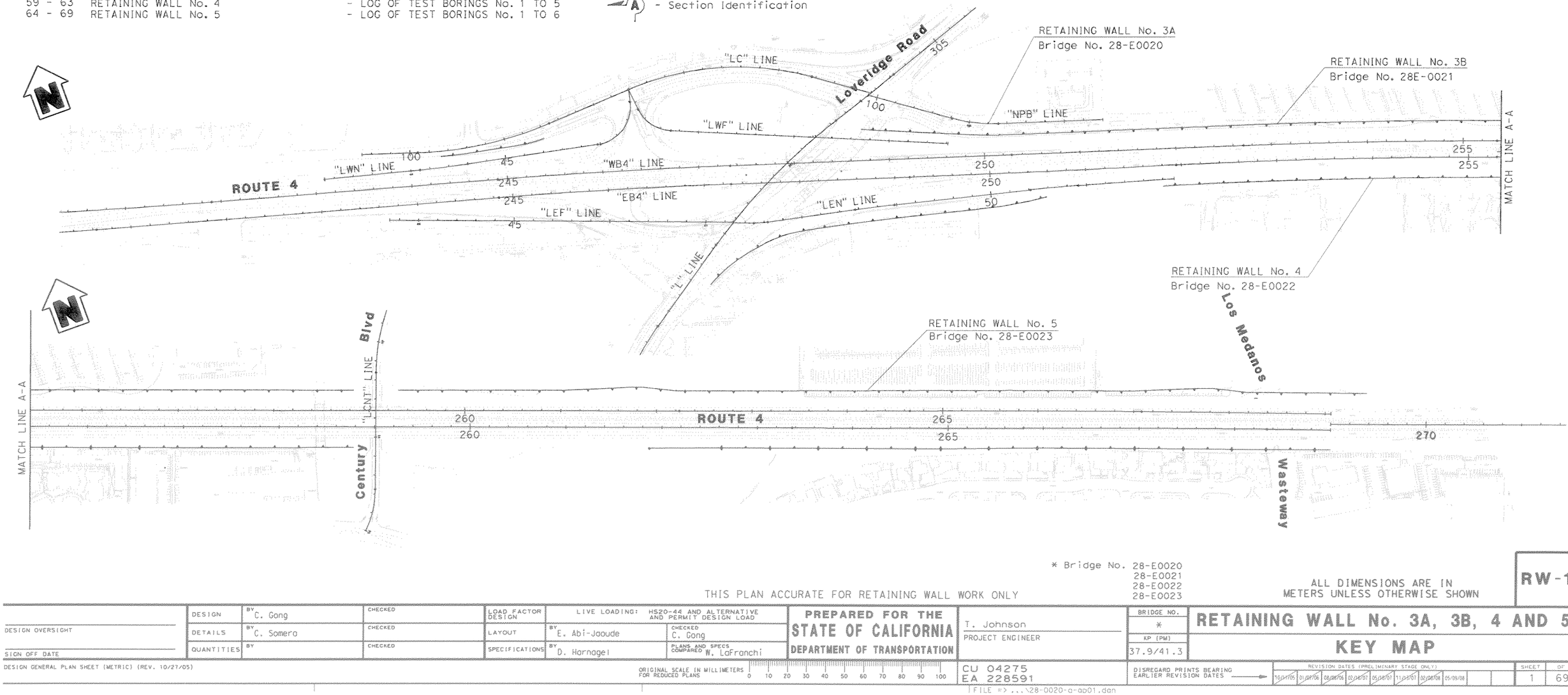
REGISTERED PROFESSIONAL ENGINEER — CHAO GONG — No. C53837 — Exp. 09/30/09 — CIVIL — STATE OF CALIFORNIA

PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

CONTRA COSTA TRANSPORTATION AUTHORITY
3478 BUSKIRK AVENUE, SUITE 100
PLEASANT HILL, CA 94523

URS
3440 VINCENT ROAD
PLEASANT HILL, CA 94523



* Bridge No. 28-E0020
28-E0021
28-E0022
28-E0023

THIS PLAN ACCURATE FOR RETAINING WALL WORK ONLY

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

RW-1

DESIGN OVERSIGHT	DESIGN	BY C. Gong	CHECKED	LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD		PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	T. Johnson PROJECT ENGINEER	BRIDGE NO. *
SIGN OFF DATE	DETAILS	BY C. Somero	CHECKED	LAYOUT	BY E. Abi-Jaoude	CHECKED C. Gong			KP (PM) 37.9/41.3
	QUANTITIES	BY	CHECKED	SPECIFICATIONS	BY D. Harnagel	PLANS AND SPECS COMPARED W. LaFranchi			

RETAINING WALL No. 3A, 3B, 4 AND 5
KEY MAP

DESIGN GENERAL PLAN SHEET (METRIC) (REV. 10/27/05)

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 04275
EA 228591

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY): 10/27/05 | 01/27/06 | 02/28/06 | 02/26/07 | 05/24/07 | 11/23/07 | 02/28/08 | 05/09/08

SHEET 1 OF 69

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USERNAME => christina.DGN PLOTTED => 6/22/2009 TIME PLOTTED => 11:51:05 PM

Handout

Construction Dewatering

California Regional Water Quality Control Board
North Coast Region

ORDER NO. 93-61
NPDES PERMIT NO. CA0024902

GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
WASTE DISCHARGE REQUIREMENTS

FOR

DISCHARGES OF GROUNDWATER TO SURFACE WATER
RELATED TO
CONSTRUCTION AND SUBSURFACE SEEPAGE DEWATERING ACTIVITIES
IN THE NORTH COAST REGION

The California Regional Water Quality Control Board, North Coast Region (hereinafter the Board), finds that:

1. The September 22, 1989, Memorandum of Agreement between the U.S. Environmental Protection Agency (hereinafter EPA) and the State Water Resources Control Board (hereinafter State Board) authorized and established procedures for the State to issue general National Pollutant Discharge Elimination System (NPDES) permits pursuant to 40 CFR 122.28 and 122.44.

2. 40 CFR 122.28 provides for the issuance of general permits to regulate a category of point sources if the sources: a) involve the same or substantially similar types of operations; b) discharge the same type of wastes; c) require the same type of effluent limitations or operating conditions; d) require similar monitoring; and, e) are more appropriately regulated under a general permit rather than individual permits.

3. Existing and future discharges of groundwater to surface waters from construction dewatering and subsurface seepage dewatering: a) result from similar operations - all involve extraction and discharge of groundwater; b) are the same type of waste - all are groundwater which may or may not contain pollutants; c) require similar effluent limitations for discharges to the same receiving waters; d) require similar minimum frequency of monitoring - annually; and , e) are determined to be more effectively regulated with general permits rather than individual permits. This Order therefore establishes requirements to regulate discharges of groundwater containing pollutants to surface waters under the jurisdiction of this Regional Board.

4. General waste discharge Requirements and NPDES permits will enable the Regional Board to expedite processing of requirements, simplify the application process for dischargers, better utilize limited staff resources, and avoid the expense and time involved in repetitive public noticing, hearings, and permit adoptions.

5. The Board adopted Water Quality Control Plans for the Klamath River Basin (1A) and the North Coastal Basin (1B) on March 20, 1975. The Klamath River Basin Plan (1A) was combined with the North Coastal Basin Plan (1B) to form the Water Quality Control Plan for the North Coast Region. The Plan for the North Coast Region was adopted by the Board on April 28, 1988 and approved by the State Water Resources Control Board on November 15, 1988. The Plan includes water quality objectives, implementation plans for point source and nonpoint source discharges and statewide plans and policies. The State Water Resources Control Board adopted the Inland Surface Waters Plan and the Enclosed Bays and Esturaries Plan on April 11, 1991.

6. This permit establishes effluent limitations for toxic substances as specified in Tables 1 and 2 of the Inland Surface Waters Plan.

The permittee is required to monitor the discharge for those substances likely to be in the permittee's waste stream as specified in the attached Monitoring and Reporting Program. This determination is based on a careful review of laboratory analyses of the discharge and descriptions of the dewatered area.

The permittee has certified that certain Table 1 and 2 substances are not in the waste stream, that no source has been identified which would likely result in the presence of such substances in the waste stream, and that no change has occurred that could cause such substance(s) to be present in the waste stream.

7. The permittee has submitted a report of waste discharge, an appropriate fee, and given notice of the intent to comply with the terms and conditions of this permit.

1000.00

8. The beneficial uses of waters of the region include:

a. municipal and domestic supply
b. agricultural supply
c. industrial supply
d. groundwater recharge
e. freshwater replenishment
f. navigation
g. hydropower generation
h. water contact recreation
i. non-contact water recreation
j. ocean commercial and sport fishing
k. warm freshwater habitat
l. cold freshwater habitat

m. preservation of areas of special biological significance
n. saline water habitat
o. wildlife habitat
p. preservation of rare and endangered species
q. marine habitat
r. fish migration
s. fish spawning
t. shellfish harvesting

9. Beneficial uses of areal groundwaters include:

a. domestic water supply
b. agricultural water supply
c. industrial supply

10. Effluent limitations, and toxic and pretreatment effluent standards established pursuant to Sections 208(b), 301, 302, 303(d), 304, 306, 307, and 403 of the Clean Water Act and amendments thereto are applicable to the permittee.

11. On October 28, 1968, the State Water Resources Control Board adopted Resolution 68-16 "Statement of Policy with Respect to Monitoring High Quality of Waters in California", Which requires the application of best practicable treatment or control discharge to maintain high quality of receiving waters.

12. Section 301(b)(2) of the Clean Water Act requires that all NPDES permits prescribe the application of best available technology economically achievable in the determination of technology-based effluent limitations.

13. The requirements contained in this Order were established by considering all the water quality control policies, plans, and regulations mentioned above and will protect and maintain the beneficial uses of the receiving waters.

14. The issuance of general waste discharge requirements for the above described discharges is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code in accordance with Water Code Section 13389. The discharges that will be authorized under these general waste discharge requirements are not "new sources" as defined in 33. U.S.C., Section 306 and 40 CFR, Part 122.2.

Moreover, as an activity for protection of the environment, in accordance with Title 14, California Code of Regulation, Section 14308, the issuance of general waste discharge requirements is exempt from the provisions of Chapter 3, Division 13, Section 21100, et seq.

15. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

16. This Order will serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act, or amendments thereto, and will take effect at the end of ten days from the date of adoption by the Board.

THEREFORE, IT IS HEREBY ORDERED that the permittee, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. ELIGIBILITY

1. Existing and future discharges of groundwater to surface waters resulting from construction dewatering and for subsurface seepage dewatering and similar operations may be eligible for this permit.

2. When an individual NPDES permit with more specific requirements is issued to a discharger, the applicability of this general permit to the individual NPDES permittee is automatically terminated on the effective date of the individual permit.

B. AUTHORIZATION

To be authorized to discharge under this Order, the discharger must submit a Report of Waste Discharge and an application for a NPDES permit (hereinafter Report of Waste Discharge) in accordance with the requirements of Part C of this Order. Upon receipt of the Report of Waste Discharge, the Executive Officer shall determine the applicability of this Order to such a discharge (including an evaluation that the discharge will result in attainment of the objectives set forth in the water quality control plans discussed in Finding Nos. 5 and 6). If the Executive Officer so finds, he shall notify the discharger that its discharge is authorized under the terms and conditions of this Order and prescribe the appropriate monitoring and reporting program.

For new discharges, the discharge shall not commence until receipt of the Executive Officer's written determination.

C. REPORT OF WASTE DISCHARGE

1. Deadline for Submission

a. Existing dischargers who intend to obtain coverage under this Order shall file a Report of Waste Discharge within 90 days of the effective date of this Order.

b. New discharges shall file a Report of Waste Discharge at least 60 days before start of discharge.

2. Failure to Submit a Report of Waste Discharge

Dischargers who fail to file a report of waste discharge and discharge pollutants to the waters of the State are in violation of the California Water Code and the Federal Clean Water Act.

3. Alternative Method of Disposal

The Report of Waste Discharge shall be accompanied by a feasibility study of reuse of the groundwater. If reuse is not feasible, the Report of Waste Discharge hasll be accompanied by a description of alternatives for disposal other than to surface waters.

D. DISCHARGE LIMITATIONS

Discharges authorized under this Order shall comply with the following discharge limitations, and additional limitations set forth in Attachment A. In the letter of determination, the Executive Officer shall indicate the discharge limitations in Attachment A applicable to the particular waste discharge.

1. The discharge of groundwater containing constituents in excess of the background level in the receiving water is prohibited.

2. The discharge of any waste not specifically regulated by this Permit is prohibited.

3. Creation of a pollution, contamination, or nuisance, as defined by Section 13050 of the California Water Code (CWC) is prohibited.

4. The discharge from the treatment facility of detectable levels of petroleum, petroleum constituents or volatile halogenated compounds is prohibited.[1]

E. RECEIVING WATER LIMITATIONS

1. The waste discharge must not cause the dissolved oxygen concentration of the receiving water to be depressed below 7.0

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[1] For the purpose of this Permit, levels of detection are as follows:

CONSTITUENT	UNITS	DETECTION LIMIT
Petroleum Hydrocarbons	ug/l	50
Benzene	ug/l	0.5
Toluene	ug/l	0.5
Xylene	ug/l	0.5
Ethylbenzene	ug/l	0.5
Volatile Halogenated Compounds	ug/l	0.5

mg/l. In the event that the receiving waters are determined to have dissolved oxygen concentration of less than 7.0 mg/l, the discharge shall not depress the dissolved oxygen concentration below the existing level.

2. The discharge must not cause the pH of the receiving waters to be depressed below 6.5 nor raised above 8.5. Within this range, the discharge shall not cause the pH of the receiving waters to be changed at any time more than 0.5 units from that which occurs naturally.

3. The discharge must not cause the turbidity of the receiving waters to be increased more than 20 percent above naturally occurring background levels.

4. The discharge must not cause the receiving waters to contain floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.

5. The discharge must not cause the receiving waters to contain taste or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, that cause nuisance, or that adversely affect beneficial uses.

6. The discharge of waste must not cause esthetically undesirable discoloration of the receiving waters.

7. The discharge must not cause bottom deposits in the receiving waters to the extent that such deposits cause nuisance or adversely affect beneficial uses.

8. The discharge must not contain concentrations of biostimulants which promote objectional aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses of the receiving waters.

Achievable Numbers

9. The discharge must not cause the receiving waters to contain toxic substances in concentrations that are toxic to, degrade, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.

10. The discharge must not cause a measurable temperature change in the receiving waters.

11. The discharge must not cause bioaccumulation of pesticide, fungicide, wood treatment chemical, or other toxic pollutant concentrations in bottom sediments or aquatic life to levels which are harmful to human health.

12. The discharge must not cause the receiving waters to contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water that cause nuisance or that otherwise adversely affect beneficial uses.

13. This discharge must not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Federal Water Pollution Control Act, and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act, or amendments thereto, the Board will revise and modify this Permit in accordance with such more stringent standards.

14. The discharge must not cause concentrations of contaminants to occur at levels which are harmful to human health in waters which are existing or potential sources of drinking water.

15. The discharge must not cause concentrations of toxic pollutants in the water column, sediments, or biota that adversely affect beneficial uses.

16. The discharge must not cause acute nor chronic toxicity in the receiving waters.

F. SOLIDS DISPOSAL

1. This Permit does not authorize waste discharge to land. Collected screenings, sludges, and other solids removed from liquid wastes shall be disposed of at a solid waste facility for which waste discharge requirements have been prescribed by a Regional Water Quality Control Board.

G. PROVISIONS

1. Duty to Comply

The permittee must comply with all of the conditions of this Permit. Any permit noncompliance constitutes a violation of the Clean Water Act and the Porter-Cologne Water Quality Control Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. [40CFR122.41(a)]

The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Permit has not yet been modified to incorporate the requirement. [40CFR122.41(a)(1)]

2. Duty to Reapply

This permit expires on five years from the date of issuance. If the permittee wishes to continue an activity regulated by this Permit after the expiration date of this Permit, the permittee must apply for and obtain a new permit. The application, including a report of waste discharge in accordance with Title 23, California Code of Regulations must be received by the Board no later than 60 days prior to the expiration of this permit. [40CFR122.41(b)]

The Regional Administrator of the Environmental Protection Agency may grant permission to submit an application at a later date prior to the permit expiration date; and the Regional Administrator of the Environmental Protection Agency may grant permission to submit the information required by paragraphs(g)(7), (9), and (10) of 40CFR122.21 after the permit expiration date. [40CFR122.21(d)(2)]

3. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit. [40CFR122.41(c)]

4. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this Permit which has a reasonable likelihood of adversely affecting human health or the environment. [40CFR122.41(d)]

5. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with this Permit. Proper operation and maintenance includes adequate laboratory control and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a permittee only when necessary to achieve compliance with the conditions of this Permit. [40CFR122.41(e)]

6. Permit Actions

This Permit may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

a. Violation of any terms or conditions of this Permit; or
b. Obtaining this Permit by misrepresentation or failure to

disclose fully all relevant facts; or

c. A change in any condition that requires either a temporary or a permanent reduction or elimination of the authorized discharge; or

d. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination.

e. A determination that a certification that substances identified in Tables 1 and 2 of the Inland Surface Waters Plan do not occur in the discharge is no longer valid.

The Board may also review and revise this Permit at any time upon application of any person, or on the Board's own motion. [CWC 13263(e)]

If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the Clean Water Act for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant to this Permit, this Permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition and the permittee so notified. [40CFR122.41(f)]

The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition. [40CFR122.41(f)]

7. Property Rights

This Permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. [40CFR122.41(g)]

8. Duty to Provide Information

The permittee shall furnish the Board, State Water Resources Control Board (SWRCB), or Environmental Protection Agency (EPA), within a reasonable time, any information which the Board, SWRCB, or EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Permit or to determine compliance with this Permit. The permittee shall also furnish to the Board, upon request, copies of records required to be kept by this Permit. [40CFR122.41(h)]

The permittee shall conduct analysis on any sample provided by EPA as part of the Discharge Monitoring Quality Assurance (DMQA) program. The results of any such analysis shall be submitted to EPA's DMQA manager.

9. Inspection and Entry

The permittee shall allow the Board, SWRCB, EPA, and/or other authorized representatives upon the presentation of credentials and other documents as may be required by law, to:

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this permit;
b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;
c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and
d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any locations. [40CFR122.41(i)]

10. Monitoring and Records

a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

b. The permittee shall calibrate and perform maintenance procedures in accordance with manufacturer's specifications on all monitoring instruments and equipment to ensure accurate measurements. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Permit, and records of all data used to complete the application for this Permit, for a period of at least three years from the date of the sample, measurement, report, or application. This period may be extended by request of the Board, SWRCB, or EPA at any time. All monitoring instruments and devices used by the permittee to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary, at least annually to ensure their continued accuracy.

c. Records of monitoring information shall include:

i. The date, exact place, and time of sampling or measurements;
ii. The individual(s) who performed the sampling or measurements;

iii. The date(s) analyses were performed;
iv. The individual(s) who performed the analyses;
v. The analytical techniques or methods used; and
vi. The results of such analyses.

d. Unless otherwise noted, all sampling and sample preservation shall be in accordance with the current edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association). All analyses must be conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this Permit. *Unless otherwise specified, all metals shall be reported as* total metals. Test fish for bioassays and test temperatures shall be specified by the Board. Bioassays shall be performed in accordance with guidelines approved by the Board and the Department of Fish and Game.

11. Signatory Requirements

a. All permit applications, reports, or information submitted to the Regional Board, State Board, and/or EPA shall be signed by a responsible corporate officer. For purposes of this provision, a responsible corporate officer means:

i. a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation; or

ii. the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

OR

For a Partnership or Sole Proprietorship, all permit applications, reports, or information submitted to the Regional Board, State Board, and/or EPA shall be signed by a general partner or the proprietor, respectively.

OR

For a Municipality, State, or Other Non-Federal Public Agency, all permit applications, reports, or information submitted to the Regional Board, State Board, and/or EPA shall be signed by either a principal executive officer or ranking elected official. [40CFR122.22(a)]

b. Reports required by this Permit, other information requested by the Board, SWRCB, or EPA, and permit applications submitted for Group II stormwater discharges under 40CFR122.26(b)(3) may be signed by a duly authorized representative provided:

i. the authorization is made in writing by a person described in paragraph (a) of this provision;

ii. the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company; and

iii. the written authorization is submitted to the Board prior to or together with any reports, information, or applications signed by the authorized representative. [40CFR122.22(b)(c)]

c. Any person signing a document under paragraph (a) or (b) of this provision shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted, is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." [40CFR122.22(d)]

12. Reporting Requirements

a. Planned changes: The permittee shall give notice to the Regional Board as soon as possible of any planned physical alteration or additions to the permitted facility. Notice is required under this provision only when:

i. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40CFR122.29(b); or

ii. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants

which are subject neither to effluent limitations in the permit, nor the notification requirements under Provision 12 (g).

b. Anticipated noncompliance: The permittee will give advance notice to the Board of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

c. Transfers: This Permit is not transferable.

d. Definitions: The following definitions shall apply unless specified in this permit;

i. "Daily discharge" means the discharge of a pollutant measured during a calendar day of any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in terms of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the sampling day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" shall be the concentrations of the composite sample. When grab samples are used, the "daily discharge" determination of concentration shall be the arithmetic average (weighted by flow value) of all samples collected during the sampling day.

ii. "Daily average" discharge limitation means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month.

iii. "Daily Maximum" discharge limitations means that highest allowable "daily discharge" during the calendar month.

e. Monitoring reports: Monitoring results shall be reported at the intervals specified in the self monitoring program. By January 30 of each year, the permittee shall submit an annual report to the Regional Board. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year. In addition, the permittee shall discuss the compliance record and the corrective actions taken or planned which may be needed to bring the discharge into full compliance with the permit. If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.

f. Compliance schedules: Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

g. Noncompliance reporting: The permittee shall report any noncompliance at the time monitoring reports are submitted. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent recurrence of the noncompliance.

The following events shall be reported orally as soon as the permittee becomes aware of the circumstances, and the written report shall be provided within five days of that time.

i. Any unanticipated bypass that violates any prohibition or exceeds any effluent limitation in the permit.

ii. Any upset that exceeds any effluent limitation in the permit.

iii. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Board in this Permit.

iv. Any noncompliance that may endanger health or the environment.

The Executive Officer may waive the above-required written report.

h. Other information: Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Board, the permittee shall promptly submit such facts or information. [40CFR122.41(l)]

13. Bypass

The intentional diversion of waste streams from any portion of a treatment facility is prohibited.

14. Upset

In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof. [40 CFR 122.41(n)]

15. Enforcement

The Clean Water Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Clean Water Act is subject to a civil penalty not to exceed $25,000 per day of violation. Any person who negligently violates permit conditions implementing Sections 301, 302, 306, 307, or 308 of the Act is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment of not more than one year, or both. Higher penalties may be imposed for knowing violations and for repeat offenders. The Porter-Cologne Water Quality Control Act provides for civil and criminal penalties comparable to, and in some cases greater than, those provided under the Clean Water Act.

16. Existing Manufacturing, Commercial, Mining, and Silvicultural permittees

All existing manufacturing, commercial, mining, and silvicultural permittees must notify the Board as soon as they know or have reason to believe that any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Permit, if that discharge will exceed one hundred micrograms per liter (100 ug/l). [40CFR122.42(a)(2)]

17. Availability

A copy of this Permit shall be maintained at the discharge facility and be available at all times to operating personnel.

18. Change in Discharge

In the event of a material change in the character, location, or volume of a discharge, (including any point or nonpoint discharge to land or groundwater) the permittee shall file with this Board a new report of waste discharge at least 180 days before making any such change. [CWC Section 13376]. A material change includes, but is not limited to, the following:

a. Significant change in disposal method, e.g., change from a land disposal to a direct discharge to water, or change in the method of treatment which would significantly alter the characteristics of the waste.

b. Significant change in the disposal area, e.g., moving the discharge to another drainage area, to a different water body, or to a disposal area, significantly removed from the original area, potentially causing different water quality or nuisance problems.

19. Severability

Provisions of these waste discharge requirements are severable. If any provision of these requirements is found invalid, the remainder of these requirements shall not be affected.

20. Monitoring

The Board or SWRCB may require the permittee to establish and maintain records, make reports, install, use, and maintain monitoring equipment or methods (including where appropriate biological monitoring methods), sample effluent as prescribed, and provide other information as may be reasonably required. [CWC Section 13267 and 133834].

The permittee must comply with the Contingency Planning and Notification Requirements Order No. 74-151 and the attached Monitoring and Reporting Program and any modifications to these documents as specified by the Executive Officer. Such documents are attached to this Permit and incorporated herein. The permittee shall file with the Board technical reports on self monitoring work performed according to the detailed specifications contained in any monitoring and reporting program as directed by the Board.

Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. In the event a certified laboratory is not available to the permittee, analyses performed by a noncertified laboratory will be accepted provided:

a. A quality assurance/quality control program is instituted by the laboratory. A manual containing the steps followed in this program must be kept in the laboratory and shall be available for inspection by staff of the Board. The quality assurance/quality control program must conform to EPA or State Department of Health Services guidelines.

b. The laboratory will become certified within the shortest practicable time if the State certification program is resumed.

Certification

I, Benjamin D. Kor, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, North Coast Region, on May 27, 1993

Benjamin D. Kor
Executive Officer

(NPDES.GEN)

Attachment A

GUIDANCE FOR INLAND SURFACE WATERS PLAN
PROVISIONS TO BE INCLUDED IN
MONITORING AND REPORTING PROGRAMS
ASSOCIATED WITH NPDES PERMITS

Monitoring and Reporting Programs should include the following:

1. Table 1 and 2 substances which need to be monitored in the effluent. Monitoring may also be required to assess compliance with water quality objectives in the receiving water. At a minimum this list should include the substances which are or are likely to be in the permittee's waste stream per finding No. 6 of the permit.

2. Short-term (acute) toxicity test and/or three species critical life stage (CLS) toxicity test for applicable permittees. Table 4 of the Inland Surface Waters Plan and the Enclosed Bays and Estuaries Plan specify the species and test requirements for CLS toxicity tests.

(The following footnotes should also be specified in regards to the critical life stage tests:)

* The sensitivity of the test organisms to a referenced toxicant shall be determined concurrently with each CLS bioassay and reported with the test results.

* Dilution and control waters should be obtained from an unaffected area of the receiving waters upstream of the wastewater outfall. Standard dilution water can be used if the stream segment upstream of the outfall exhibits toxicity greater than 1.0 TUc.

* Monitoring can be reduced to the most sensitive specifies after (*date or condition*)

3. Type of sample (grab, composite)

4. Monitoring location

5. Appropriate monitoring frequency

6. Analytical methods to be used. Monitoring data to be reported uncensored with Method Detection Limit (MDL) and Practical Quantitation Limit (PQL) or Limit of Quantitation (LOQ).

- Aquatic life water quality objectives for cadmium, chromium, copper, lead, nickel, silver, and zinc are based on the acid-soluble fraction. Compliance with these objectives shall be determined using the total recoverable method (or a method approved by the State Board's Executive Director or EPA)

- For objectives which are hardness- or pH-dependent, specify how to determine ambient water hardness or pH and that those measurements must be included with the results.

(For Bays and Estuaries dischargers delete need for hardness/pH testing to determine compliance with Effluent Limitations because these limitations are not hardness/pH dependent)